

### **ABSTRACT OF THE DISCLOSURE**

An apparatus and a method for detecting a data transmission rate by recognizing an amount of real-time transmitted data and a changed amount of the data so as to allocate an appropriate bandwidth required to transmit/receive

5 data in a system in which a serial bus such as an IEEE 1394 is implemented, are provided. The apparatus includes a data transmission rate detecting unit for bit stream data; a sampler; a low-pass filter for low-pass filtering a value sampled by the sampler; an error detecting unit for detecting an error value in the data transmission rate; a first comparing unit for comparing the error value

10 detected by the error detecting unit with a reference error level; an estimated data transmission rate output unit for outputting an estimated data transmission rate; and a second comparing unit for outputting the estimated data transmission rate, for efficient bandwidth operation of the serial bus.